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10/006,660	12/10/2001	Chiyoaki Iijima	111350	2201
25944	7590	04/07/2004	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			LANDAU, MATTHEW C	
			ART UNIT	PAPER NUMBER
			2815	

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/006,660

Applicant(s)

IJIMA, CHIYOAKI

Examiner

Matthew Landau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-10 and 18-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3-8, and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regards to claim 1, it is unclear if there is only one transmissive portion that spans all of the sub-pixels, or if there are individual transmissive portions for each sub-pixel. It appears from the specification and drawings that the latter is true. However, the claim only defines one transmissive portion and states that “the transmissive portion” has a first dimension at one sub-pixel and a second dimension at another sub-pixel. Claim 7 has similar problems.

In regards to claims 3-6 and 8, there is insufficient antecedent basis for the limitation “the transmissive area”. Further regarding claim 3, it is unclear how claim can depend from a cancelled claim. For the purpose of this Office Action, it is considered claim 3 depends from claim 1.

In regards to claim 18, the limitation “a transmissive portion that transmits the illumination light being formed on the transfective layer that includes a transmissive area that transmits light and a reflective area that reflects light from an upper substrate side” renders the claim indefinite. It appears from Applicant’s disclosure that the transmissive portion is part of the transfective layer. However, the claim language “formed on the transfective layer”

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indicates otherwise. It is unclear if the transmissive portion is a separate element or merely part of the transfective layer as disclosed in the specification and drawings. It is suggested Applicant amend the claim to read “formed [on] in the transfective layer”.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 5-8, 10, 19, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyashita et al. (US Pat. 6,124,909, hereinafter Miyashita).

In regards to claim 1, Figures 26 and 27 of Miyashita disclose a liquid crystal display panel formed of liquid crystals LC sandwiched between a pair of opposing substrates (1 and 2), and including pixels having a plurality of sub-pixels each corresponding to different colors; an illumination device (column 30, lines 15-20) provided to an opposite side of the liquid crystal display panel in relation to an observation side that illuminates the liquid crystal display panel with illumination light; a transfective layer 3b disposed on the opposite side of the liquid crystals in relation to the observation side with a transmissive portion 3a that transmits the illumination light formed thereto, the transmissive portion having a first dimension at least at one sub-pixel out of the plurality of sub-pixels and the transmissive portion having a second dimension at another sub-pixel, the first and second dimensions differing; and a color filter (15R/15G/15B) provided corresponding to each of the sub-pixels that transmits light of a

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wavelength corresponding to a color of each sub-pixel. Miyashita discloses the area of the reflecting film 3b in each sub-pixel is the same as the area of the non-colored portion b of the color filter (column 30, lines 25-27). Therefore, the transmissive portion of the transflective layer has the same area as the colored portion of the color filter for each sub-pixel. Since Figure 26 shows the colored portion of 15G is different than 15R, the transmissive area corresponding to 15G must be different from the transmissive area corresponding to 15R. The product-by-process limitation “according to the spectral properties of the illumination light” does not patentably distinguish the claimed invention over the prior art. See MPEP 2113.

In regards to claim 3, the product-by-process limitation “the dimension of the transmissive area at each sub-pixel being a dimension chosen according to the luminance of a wavelength of the illumination light corresponding to a color of the sub-pixel” does not patentably distinguish the claimed invention over the prior art. See MPEP 2113.

In regards to claim 5, Miyashita discloses the dimension of the transmissive area at each of sub-pixels differs for each sub-pixel corresponding to a different color (column 13, lines 40-45).

In regards to claim 6, Miyashita discloses the dimension of the transmissive area at each of the sub-pixels differing according to a position of the sub-pixel within a substrate face of the liquid crystal display panel (column 29, lines 50-56).

In regards to claim 7, Figure 27 of Miyashita discloses the transmissive portion 3a being an opening portion formed in the transflective layer corresponding to each of the subpixels.

In regards to claim 10, Figures 26 and 27 of Miyashita discloses a transflective LCD comprising: a liquid crystal layer sandwiched between an upper substrate 1 and a lower substrate

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2 opposing one another; a transfective layer 3b which has a transmissive area 3a that transmits light and a reflective area b that reflects incident light from an upper substrate side, and which is disposed on an inner side of the lower substrate; a color filter (15R/15G/15B) disposed on an upper side of the transfective layer, upon which a plurality of pigment layers (15R/15G/15B) with different colors according to each of sub-pixels forming display area are arrayed; and an illumination device (column 30, lines 15-20) providing illumination light and disposed on an outer side of the lower substrate, the pigment layers being formed over an entirety of an area overlapping the transmissive area in a planar manner and an area overlapping the reflective area in a planar manner. Note that Miyashita discloses the reflective film 3b has a wider area than the non-colored light exit area (column 30, lines 25-28). Therefore, the pigment layers overlap the reflective area. Figures 26 and 27 of Miyashita disclose at least one color pigment layer not being formed at a part of an area overlapping the reflective area in a planar manner (all pigment layers don't overlap at least a portion of reflective area b), and a dimension of a pigment layer formation area, where the pigment layers are formed, the dimension being different between at least one color pigment layer 15R out of the plurality of pigment layers of differing colors and another color pigment layer 15G (column 4, lines 23-37 and column 13, lines 40-45). The product-by-process limitation "the dimensions of the pigment layer formation areas differing according to spectral properties of the illumination light" does not patentably distinguish the claimed invention over the prior art. See MPEP 2113.

In regards to claims 19 and 20, it is inherent for a liquid crystal display to be used in some type of electronic apparatus, since a liquid crystal display requires electricity for operation.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyashita in view of Stewart et al. (US Pat. 4,828,365, hereinafter Stewart).

The difference between Miyashita and the claimed invention is the dimension of the transmissive area at a sub-pixel of a color corresponding to a wavelength of the illumination light with great luminance being smaller than the dimension of the transmissive area at a sub-pixel of a color corresponding to a wavelength of the illumination light with small luminance. Stewart teaches adjusting the areas of the filter elements in accordance with the percentage of primary light in the illuminating source (see abstract). Stewart specifically teaches measuring the brightness of the three primary colors emitted by the illumination source and inversely tailoring the areas of the filter elements in accordance with the measurements (col. 2, lines 55-67). In other words, the color with the greatest brightness has the smallest color filter area. In view of such teaching, it would have been obvious to the ordinary artisan at the time the invention was made to modify the invention of Miyashita by using a smaller transmissive area for a sub-pixel corresponding to a wavelength of the illumination light with great luminance. The ordinary artisan would have been motivated to modify Miyashita in the manner described above for the

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purpose of maintaining good color balance of the output light while allowing for the use of an efficient but impure white light illumination source (col. 1, lines 60-63 and col. 2, lines 58-61).

### *Allowable Subject Matter*

Claims 8 and 18 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

### *Response to Arguments*

Applicant's arguments filed January 30, 2004 have been fully considered but they are not persuasive.

In response to Applicant's argument that Miyashita does not disclose or suggest a first and a second dimension of the transmissive portion differ "according to the spectral properties of illumination light", the limitation "differing according to the spectral properties of the illumination light", is merely a product-by-process limitation. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. "The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). A process of making a product entails all steps involved in making that product, whether physical or otherwise. In this case, the aforementioned limitation is a decision step that determines the dimensions of the



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transmissive portions. This decision step is part of the process of making the product. All that is required by the claim language is that there is illumination light, and that the first and second dimensions differ. Therefore, the device of Miyashita reads on the claim. How and why the dimensions differ is irrelevant since the claim is drawn to a product.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Landau whose telephone number is (571) 272-1731.

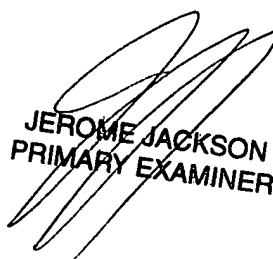
The examiner can normally be reached from 8:30 AM - 5:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Matthew C. Landau

Examiner

April 1, 2004

  
JEROME JACKSON  
PRIMARY EXAMINER